



## SERVICE DIRECTIVE BULLETIN

SERVICE NOTE NO. 0002  
FAA Approved

DATE: July 26, 1967

SUBJECT: Main Rotor Transmission

MODELS: Affected - F-28 Serial No. 003 thru No. 011

REASON: To Eliminate Fretting Between Adapter and Bearing

TIME OF COMPLIANCE: Noted

Several instances have been noted of severe fretting between the #99608 X3B bearing on the upper end of the belt tension strut (P/N 28-13209) and the 28-13110 spacer on the transmission pinion shaft. If a problem exists, visual examination of the aft side of the #99608 X3B bearing and the surrounding area will indicate contamination by a black, powdery material. Associated with this will be looseness of the bearing inner race on its adapter. If this condition is noted, it will be necessary to replace the 28-13110 adapter before the next flight. If no evidence of fretting is noted, this replacement can be effected as soon as convenient.

1. Removal
  - a. Remove aft wrap-around cowl and baggage compartment (if installed).
  - b. Separate tail rotor drive shaft from pinion shaft at forward coupling by removing taper pins and sliding coupling aft on shaft.
  - c. Remove bolts at forward tail rotor shaft bearing to permit shaft to clear pinion shaft.
  - d. Remove NO-6 locknut, WO-6 lockwasher and 28-13109 washer from pinion shaft.
  - e. Remove #99608 X3B bearing and 28-13110 adapter from pinion shaft. If adapter is difficult to remove, it may be necessary to file or grind some grooves into sides to permit use of a bearing puller.

2. Installation

- a. New adapters 28-13143 and 28-13144 are press-fit to #99608 X3B bearing, and retained with type “A” loc-tite. NOTE: Carefully inspect the #99608 X3B bearing before reinstallation. If severe fretting has occurred and considerable clearance has developed between bearing and adapter, replacement of this bearing as well as the self-aligning bearing at the lower end of the belt tension strut is recommended.
- b. Clean up pinion shaft and install bearing with adapters on shaft. Do not drive adapters on pinion shaft with great force as shaft may move into gear box. It is preferable to preheat the adapters to permit them to slide on the shaft. Install new WO-6 tang washer, NO—6 locknut and torque locknut to  $2000 \pm 100$  in. lbs.
- c. Reassemble belt tension strut and tail rotor drive shaft.
- d. After 5 or 10 minutes operation of the helicopter rotor system under power, recheck torque of NO-6 pinion shaft locknut. Safety locknut with tang washer.
- e. Reinstall baggage compartment and cowling.